REMARKS

Responsive to the outstanding Office Action, applicant has carefully studied the Examiner's rejections and the comments relative thereto. Favorable reconsideration of the application is respectfully requested in light of the amendments and following detailed arguments.

In the response, claim 11 has been amended and claim 20 has been canceled. It is respectfully submitted that no new matter has been presented in these amendments.

Rejection under 35 USC 112, second paragraph

Claim 20 was rejected under 35 USC 112, second paragraph, for indefiniteness. Claim 20 has been canceled herein, thereby rendering the rejection thereagainst moot.

Claim Objections

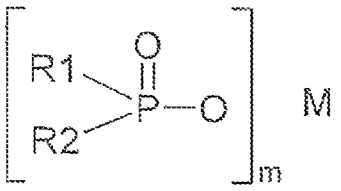
Claim 11 was objected to for reciting adipic acid while the specification recited adipinic acid. Claim 11 has been amended herein so that the specification and claims are consistent. Withdrawal of this objection is therefore respectfully requested.

Rejections under 35 USC 103

Claims 11, 13, 17 and 19-20 are again rejected under 35 USC 103 as being unpatentable over Schlosser in view of Sicken, Sugino and Saga.

Independent claim 11 defines a flameproof polyamide molding compound. The compound comprises 20 - 80% by weight of one or more aliphatic polyamides and 1 -

40% by weight of one or more partly aromatic polyamides, which are selected from the group consisting of polyamides, the periodical units of which are derived from terephthalic acid and isophthalic acid and adipinic acid and also hexamethylene diamine, and 5 – 15% by weight of a flameproofing agent, containing a



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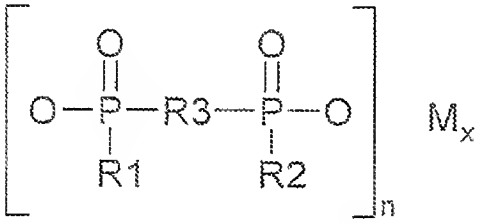

(2)

phosphinic acid salt of formula (I) and/or a diphosphinic acid salt of formula (II) and/or polymers thereof. R^1, R^2 are the same or different and is C_1-C_6 alkyl, linear or branched, and/or aryl; and R^3 is C_1-C_{10} alkylene, linear or branched, C_6-C_{10} arylene, -alkyl arylene or aryl alkylene and M is metal ion from the 2nd or 3rd main or auxiliary group of the periodic table. Further m is 2 or 3, n is 1 or 3, and x is 1 or 2. The compound further comprises 5 - 60% by weight of a fibre- or particle-like filler or mixtures thereof and 0.05 - 10% by weight by additional additives wherein the sum of the proportions is 100% by weight. The additional additives are selected from the group consisting of anti-oxidants, light stability agents, lubricants, mold-release agents, nucleation agents, pigments, colorants and anti-dripping agents.

The list of potential additives described in part e) has been refined in the present invention. The additives listed are specifically enumerated in the international application, as filed.

Before discussing the present rejection in detail, it is first submitted that Example 4, which the Examiner stated does not read on the claimed invention (as the aliphatic polyamide was outside the claimed range of 20-80) does read on the invention. Example 4 is directed towards polyamide composition containing 2 types of aliphatic polyamides, polyamide a1 and polyamide a2. These polyamides are each present in a weight percent of 18.7, therefore the total of the polyamides is 37.4 wt%, which does fall inside the claimed range of pending claim 11.

Applicant concurs that Schlosser teaches a flame-proof polyamide composition which comprises phosphinates or diphosphinates as flame retardants, fillers and other additives, but fails to teach the amount of other additives the mixture of aliphatic and semi-aromatic polyamides and the type of semi-aromatic polyamides.

Applicant also agrees that Sicken is mentioned in the teaching of Schlosser and thus the amount of additives is mentioned by this combination.

However, applicant respectfully disagrees with the Examiner's contention that the use of a mixture of aliphatic and semi-aromatic polyamides and the nature of the aromatic polyamides chosen is obvious in view of the references.

Looking to the examples given in the present invention, reference example 1 and example 2 are each directed to polyamide molding compositions based on aliphatic polyamide and a phosphinate flame retardant. Thus the polyamide molding compositions of the reference examples are comparable to the polyamide compositions

described and references by the Examiner. It is also noted that Schlossinger describes polyamide molding compositions which comprise phosphinates as flame retardants up to 30 wt%.

With reference to column 8, table 1, entry 9, Schlosser describes the same composition as comparative example 1 of the present invention. (nylon 6,6, containing 30 wt% DEPAL (aluminum diethylphosphinate) The same classification test was used(UL 94, with a test specimen of 1.6mm). The classification of the reference example is V-2, which is the worst classification in this test method.

The present invention, as claimed, is based on the findings that in flame retardant polyamide compositions which contain only 1 polyamide and a diethylphosphinate flame retardant, a replacement of a portion of the flame retardant by a different polyamide leads to an enhancement of the flame retardancy as well as enhancement of selected mechanical properties, such as stress at failure and breaking elongation.

It is respectfully submitted that these improved properties were surprising, and were not foreseeable to one skilled in the art. One skilled in the art would expect the replacement of a certain amount of a flame retardant, with a different polyamide (which is, per se flammable) to result in a reduced flame retardancy. Thus the effect of the composition of the present invention was surprising and unexpected to those skilled in the art. These improved properties are demonstrated by references 1-4 of the present invention when compared to reference examples 1 and 2.

Therefore, the present invention improves flame retardant polyamide compositions which are based on alkyl-phosphinate as a flame retardant, i.e. improves

flame retardants such as those shown in the Schlosser reference. The above demonstrates that the claimed invention differs from Schlosser, in that the present invention improves on the flame retardancy of the composition of Schlosser, by using a special mixture of different polyamides.

Thus applicants have surprisingly found that replacing a portion of the flame retardant with a different flammable composition increases the flame retardancy of the resultant product. The present invention produces improved flame retardant properties over polyamide compositions based on a single polyamide, and that use and alkyphosphinate flame retardant. It was also surprisingly found that additional mechanical properties were improved. This is achieved through the use of 2 different polyamides (aliphatic and aromatic) in addition to a dialkylphosphinate flame retardant.

It is respectfully submitted that none of the remaining references (Sugino and Saga), which have been discussed previously, alter this analysis. Nothing in these documents render obvious the surprising disclosure of the present invention.

As noted previously, the invention provides a significant improvement in the mechanical properties of the inventive molding as opposed to the known moldings. The higher the breaking elongation of the material, the less brittle the compounds are. This is very important in the case of snap connections, which are often used in, for example, the electrical industry. Thus the properties of the claimed invention are superior to those of compounds currently known in the art.

In view of the forgoing, it is respectfully submitted that no reasonable combination of the applied references yield the invention as claimed in claim 11. One

skilled in the art would not come to the teachings of the present invention from the references cited.

Claims 13-15, 17 and 19, which depend directly or indirectly from independent claim 11, are believed to be allowable based, at least, upon this dependence.

Should the Examiner wish to modify the application in any way, applicant's attorney suggests a telephone interview in order to expedite the prosecution of the application.

Respectfully submitted,

Mark A. Hixon
Registration No. 44,766

ATTORNEYS
Marshall & Melhorn, LLC
Four SeaGate - 8th Floor
Toledo, Ohio 43604
(419) 249-7114
(419) 249-7151 Facsimile
Hixon@marshall-melhorn.com